

August 27, 2020

Rhode Island Department of Environmental Management
Office of Air Resources
Attn: Alexi Mangili
235 Promenade Street, Room 230
Providence, RI 02908

Subject: 2019 Air Emission Inventory Forms Submittal

Dear Ms. Mangili:

Enclosed is the completed emission inventory submittal package for Boston Scientific Corporation's (BSC) medical device sterilization facility located at 8 Industrial Drive in Coventry, RI. The package includes:

- Form F1 - Fuel Burning forms
- Form F4 - Emergency Backup Generator
- Form J - Mass Balance Reporting forms
- Form M4 - Ethylene Oxide use
- 2019 Emissions Mass-Balance Diagram

Please don't hesitate to contact me directly if there are any questions or concerns with this year's inventory report.

Sincerely,



Shawn Anderson
Coventry Facility EHS Specialist

Enclosures

Copy: Laurie Grandchamp, Administrator, RIDEM Air Resources
BSC Coventry

Rhode Island Department of Environmental Management
2019 Air Pollution Inventory
Fuel Burning



Facility Name _____

Address _____

Contact Name _____

Phone _____ Date _____

No. of functioning boilers	
No. of boilers added since 2018	
No of boilers permanently retired since 2018	
No. of boilers using 1 fuel	
No of boilers using 2 fuels	
No. of boilers burning waste oil	
Fuel burned in other types of equipment	
No. of Rooftops/Heaters	
No. of Annealing/Drying ovens	
Other(CHP)	

*(Note: Fuel burned in generators/small engines should be reported on Form F4
Emergency/Back- up Generators/ Small Engines)*

2019 fuel usage by type for this facility

Fuel used in a boiler				Other fuel burned, but not in boilers	
#6 _____ %Sulfur	gal	Natural gas	ccf	Natural Gas	ccf
#4 _____ %Sulfur	gal	Liquid Propane	gal	Liquid Propane	gal
#2 _____ % Sulfur	gal	Other		#2	gal
Waste oil	gal			Other	

*For #4 oil, please report blend _____%#2 _____%#6

Boiler Information

Boiler No. (what you call it)				
Boiler size (MMBtu/hr)				
Type of fuel burned				
Amount of fuel burned 2019				
Units (gal/ccf)				

If reporting fuel in units other than those listed gallons (gal) or hundred cubic feet (ccf), please cross out and write the units on the form.

Return to: Air Pollution Inventory, Office of Air Resources
235 Promenade St, Providence, RI 02908

Air Pollution Inventory Form F1

This form should be used for reporting fuel used in boilers, roof top heaters or process equipment. Fuel used in emergency back/up generators should be reported on Form F4 Emergency/backup generators/Small Engines.

The amount of fuel burned can be obtained from your supplier. Generally gallons (gal) used or hundred cubic feet (ccf) burned will be supplied. If your supplier provides you with the amount used in units other than those listed, please cross out the units on the form and write in the units given.

The % sulfur in your fuel can be obtained from your supplier. An average %S should be given.

On the boiler information table boiler number can be anything you call it.

The boiler size can be found on the boiler plate located on the boiler.

When reporting the type of fuel burned if oil please specify #2, #4 or #6 oil.

When reporting the units please be careful and supply us with the units given by supplier.

Should you need any assistance completing this form please contact Alexi Mangili at 222-2808 ext. 7019.

Rhode Island Department of Environmental Management
2019 Air Pollution Inventory
Fuel Burning



Facility Name _____

Address _____

Contact Name _____

Phone _____ Date _____

No. of functioning boilers	
No. of boilers added since 2018	
No of boilers permanently retired since 2018	
No. of boilers using 1 fuel	
No of boilers using 2 fuels	
No. of boilers burning waste oil	
Fuel burned in other types of equipment	
No. of Rooftops/Heaters	
No. of Annealing/Drying ovens	
Other(CHP)	

*(Note: Fuel burned in generators/small engines should be reported on Form F4
Emergency/Back- up Generators/ Small Engines)*

2019 fuel usage by type for this facility

Fuel used in a boiler				Other fuel burned, but not in boilers	
#6 _____ %Sulfur	gal	Natural gas	ccf	Natural Gas	ccf
#4 _____ %Sulfur	gal	Liquid Propane	gal	Liquid Propane	gal
#2 _____ % Sulfur	gal	Other		#2	gal
Waste oil	gal			Other	

*For #4 oil, please report blend _____%#2 _____%#6

Boiler Information

Boiler No. (what you call it)				
Boiler size (MMBtu/hr)				
Type of fuel burned				
Amount of fuel burned 2019				
Units (gal/ccf)				

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When reporting the units please be careful and supply us with the units given by supplier.

Should you need any assistance completing this form please contact Alexi Mangili at 222-2808 ext. 7019.

Rhode Island Department of Environmental Management
2019 General Survey Form



Emergency/Back-up Generators
Small Engines

Facility Name

Facility Address (City, State, Zip)

Phone Number

Name of Person Completing Form

Date

Number of emergency/back-up generators of small engines at the facility. _____

For each generator or engine, please complete the following (*attach additional sheets if necessary*):

Generator or engine 1

Size of unit (hp) _____

Type and amount of fuel burned:

Diesel (#2 oil) _____ (gal) natural gas _____ (ccf)

Propane (lpg) _____ (gal) gasoline _____ (gal)

of hours operated _____

Was the generator or engine installed after Jan 1, 2007? Yes No

If installed after Jan 1, 2007 date installed _____

Generator or engine 2

Size of unit (hp) _____

Type and amount of fuel burned:

Diesel (#2 oil) _____ (gal) natural gas _____ (ccf)

Propane (lpg) _____ (gal) gasoline _____ (gal)

of hours operated _____

Was the generator or engine installed after Jan 1, 2007? Yes No

If installed after Jan 1, 2007 date installed _____

For each emergency/back-up unit or small engine at the facility at the facility please complete the information requested.

The size of the unit should be listed on an information plate on the unit. If the size is not given in horsepower, please cross out hp on this form and report the size with the unit specified on the plate in the space on the form.

If you are unsure of the amount of fuel used in the unit please contact the office for guidance.

If the unit was installed after 2007 and you do not know the exact date the unit went into service you may estimate the date.

Any questions regarding this form should be directed to Alexi Mangili at (401) 222-2808 ext 7019 or email alexi.mangili@dem.ri.gov

**Rhode Island Department of Environmental Management
2019 Air Pollution Inventory**

Mass Balance Reporting Form
(Instructions on Reverse)



Page ____ of ____

Facility Name _____

Stam Anderson

Signature of Person Completing Form _____

Phone _____

Date _____

*For each Volatile Organic Compound or regulated substance, provide the following information. Attach additional sheets if necessary. **You may substitute a spreadsheet for this page.***

VOC or Regulated Substance Name & CAS Number			
	CAS:	CAS:	CAS:
Type of Operation			
Beginning Inventory (1/1/2019)			
Amount Used for 2019			
Ending Inventory (12/31/2019)			
Amount Manifested and % of that waste that was this chemical			
	%	%	%
Amount Retained in Product			
Amt. discharged to POTW (name): _____			
Other Mass Balance Adjustments (specify)			
Amount of Substance Released to Air			
Describe Air Pollution Control or Recovery Equipment Pertinent to Chemical	Type:	Type:	Type:
	Approval No.:	Approval No.:	Approval No.:
Capture Efficiency %			
Destruction or Recovery Efficiency %			
Overall Efficiency %			

Return to: Air Pollution Inventory, Office of Air Resources,
235 Promenade Street, Providence, RI 02908-5767

Air Pollution Inventory Form J

**Rhode Island Department of Environmental Management
2019 Air Pollution Inventory**

Mass Balance Reporting Form
(Instructions on Reverse)



Page ____ of ____

Facility Name _____

Shawn Anderson

Signature of Person Completing Form _____

Phone _____

Date _____

*For each Volatile Organic Compound or regulated substance, provide the following information. Attach additional sheets if necessary. **You may substitute a spreadsheet for this page.***

VOC or Regulated Substance Name & CAS Number			
	CAS:	CAS:	CAS:
Type of Operation			
Beginning Inventory (1/1/2019)			
Amount Purchased			
Ending Inventory (12/31/2019)			
Amount Manifested and % of that waste that was this chemical			
	%	%	%
Amount Retained in Product			
Amt. discharged to POTW (name): _____			
Other Mass Balance Adjustments (specify)			
Amount of Substance Released to Air			
Describe Air Pollution Control or Recovery Equipment Pertinent to Chemical	Type:	Type:	Type:
	Approval No.:	Approval No.:	Approval No.:
Capture Efficiency %			
Destruction or Recovery Efficiency %			
Overall Efficiency %			

Return to: Air Pollution Inventory, Office of Air Resources,
235 Promenade Street, Providence, RI 02908-5767

Air Pollution Inventory Form J

Instructions for Mass Balance Reporting Form

In a basic mass balance formula, the amount of chemical manifested plus the amount left in the product is subtracted from the amount purchased or used to result in the amount emitted or released. Boxes are provided for itemizing typical mass balance data. Please modify the form to suit your specific needs. You may substitute a printout of a spreadsheet you have already developed. **Please convert your data to pounds if possible.**

Regulated Substance - List all Volatile Organic Compounds (VOC) **and** all chemicals listed on the list entitled "Listed Toxic Air Contaminants" that were used at and/or emitted from the facility. Provide a CAS number, usually available on your MSDS. **Please note that all miscellaneous volatile organic compounds (VOCs) used in excess of 100 pounds must be reported even if the name is not specifically listed on the Listed Toxic Air Contaminants List.**

Type of Operation - Describe the kind of process in which the substance was used. Examples: degreasing, plating, wipe cleaning, rotogravure printing, etc.

Beginning Inventory - Report the amount of the substance present on site at the start of the year, if known. Include units (pounds, gallons). **Please provide data in pounds if possible.**

Amount Purchased - Report the amount of the substance purchased or otherwise acquired during 2019. Include units (pounds, gallons). **Please convert your data to pounds if possible.**

Ending Inventory - Report the amount on site at the end of the year, if known. Include units (pounds, gallons). **Please convert your data to pounds if possible.**

Amount Manifested - Report the amount (in pounds) of the regulated substance which was manifested as hazardous waste and the percentage of that waste that was this chemical.

Amount Retained in Product - Indicate the amount of substance which became part of a finished product and was not emitted during or after production. You may be asked to substantiate this.

Amount Discharged to a Publicly Owned Treatment Plant - Report the amount discharged and the name of the treatment plant to which it was discharged.

Other Mass Balance Adjustments - Specify amount and whether it should be added or (subtracted). An example may be the amount disposed of as non-hazardous waste in a landfill. Label carefully.

Amount of Substance Released to Air - Calculate the amount of the substance emitted to air. Include both fugitive and stack emissions. **Attach documentation of the calculations used.**

Air Pollution Control Equipment - Provide a short description of the equipment used to control emissions, if any. Examples follow:

Type: Incinerator, Venturi Scrubber, Cartridge Baghouse, etc.

Approval. No: Provide your RIDEM Air Pollution Construction Permit Approval Number.

Capture: List the capture efficiency for this chemical.

Destruction or Recovery Efficiency: List if known.

Overall: List the overall control efficiency of the equipment for this chemical.

Overall Efficiency = Capture Efficiency x Destruction or Recovery Efficiency

2019 Air Pollution Inventory

Ethylene Oxide Use



Facility Name

Contact

Phone

A	B	C	D	E	F	G	H	Check applicable box:
Ethylene Oxide (EtO) Use/Process	2019 Beginning Inventory	2019 Amount Purchased	2019 Ending Inventory	2019 Amount Used	EtO Max. %	EtO Available	Emission Factor	EtO Released " or Available to be Captured "
CAS No. 75218				calculated	see MSDS use decimal	E * F		G * H
Sterilization								
Total								lbs.

For each Ethylene Oxide control device utilized by your facility, report the following data:

Device:	RI DEM Approval No.	
# days operated June - August, 2019 #	Capture Efficiency	
days operated all other months, 2019	Date of last witnessed stack test	
# days by-passed June - August, 2019 #	Destruction Efficiency	
days by-passed all other months, 2019	Overall Efficiency	

Overall Efficiency = Capture Efficiency x Destruction Efficiency

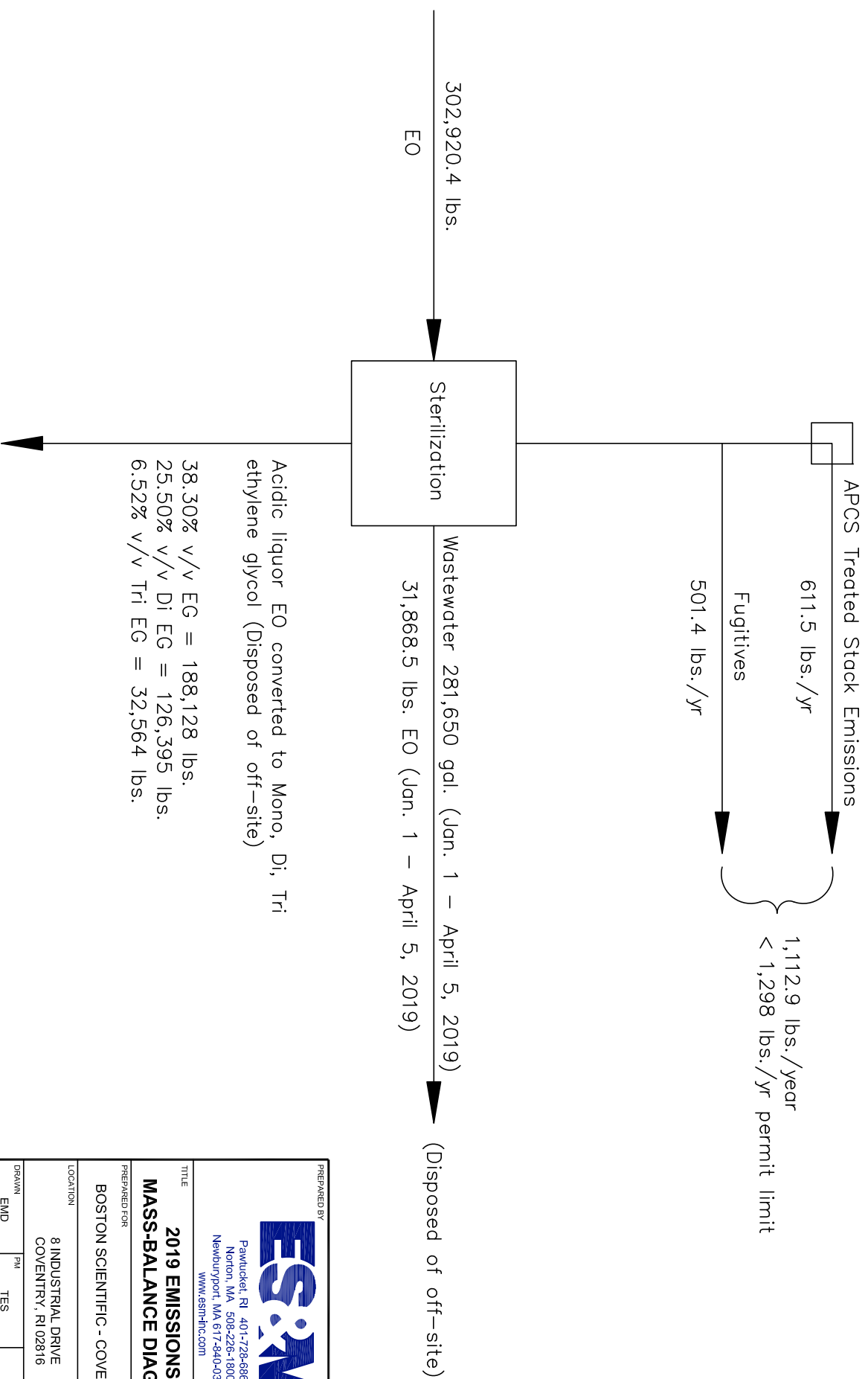
Emission Statement Sources only: Apportion and report stack and fugitive emissions

footnote 1- 2019 Amount EO Used based on comprehensive review of sterilization production and EO usage records

footnote 2 - Emission Factor = (amount EO used - calculated amount EO in wastewater)/amount EO used

Return to: Air Pollution Inventory, Office of Air Resources
235 Promenade Street, Providence, RI 02908-5767

Air Pollution Inventory Form M4




PREPARED BY			
			
Paytucket, RI 401-728-6860 Norton, MA 508-226-1800 Newburyport, MA 617-840-0363 www.esm-inc.com			
TITLE			
2019 EMISSIONS MASS-BALANCE DIAGRAM			
PREPARED FOR			
BOSTON SCIENTIFIC - COVENTRY			
LOCATION			
8 INDUSTRIAL DRIVE COVENTRY, RI 02816			
DRAWN			
EMD	PM	TES	
DATE			
08/19/2020		PROJECT	
		8004-01C	
FILENAME			
BSC_Mass-Balance Diagram.dwg			

FIGURE 1

Ref: Date: 27Aug20 SHIPPING: 6.2
Dep: Wgt: 0.25 LBS SPECIAL: 0.1
DV: 0.00 HANDLING: 0.0
TOTAL: 6.3

Svcs: PRIORITY OVERNIGHT
TRCK: 1887 5909 2275

ORIGIN ID: NCOA (401) 288-6188
BSC COVENTRY
BOSTON SCIENTIFIC
8 INDUSTRIAL DRIVE

SHIP DATE: 27AUG20
ACTWGT: 0.25 LB
CAD: 0806800/CAFE3211

COVENTRY, RI 02816
UNITED STATES US

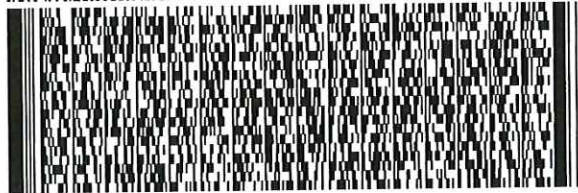
BILL SENDER

TO ALEXI MANGILI
RIDEM-OFFICE OF AIR RESOURCES
235 PROMENADE ST
ROOM 230
PROVIDENCE RI 029085734

INV:
PO:

REF:

DEPT:



FedEx
Express



TRK# 1887 5909 2275
0201

FRI - 28 AUG 10:30A
PRIORITY OVERNIGHT

04 PVDA

02908
RI-US PVD

Part # 155148-434 RIT EXP 02/21

